

In re Patent Application of:
ARNAUD ET AL.
Serial No. 09/886,966
Filing Date: JUNE 21, 2001

In the Claims:

Claims 1-3 (Cancelled).

4. (Previously Presented) A process for reducing electrical consumption of a transmitter/receiver device comprising a frequency synthesizer stage controlled by an automatic frequency control algorithm, the process comprising:
generating at least one reference signal for a transmission/reception stage within the transmitter/receiver device, the at least one reference signal having a first accuracy and being generated based upon at least one first fractional-division phase-locked loop within the frequency synthesizer stage;

generating a clock signal based upon a second fractional-division phase-locked loop within the frequency synthesizer stage;

generating a base signal for the at least one first fractional-division phase-locked loop and said second fractional-division phase-locked loop, the base signal having a second accuracy less than the first accuracy; and

delivering the base signal as a master-clock signal to a modulator/demodulator connected to the transmission/reception stage when the transmission/reception stage and the second fractional-division phase-locked loop are inactive, and delivering the clock signal as the master-clock signal when the transmission/reception stage and the second fractional-division phase-locked loop are active.

5. (Previously Presented) A process according to Claim 4, wherein the clock signal is generated having the

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first accuracy.

6. (Previously Presented) A process according to Claim 4, wherein the transmitter/receiver device is within a cellular mobile telephone.

7. (Previously Presented) A process for reducing electrical consumption within a transmitter/receiver device, the process comprising:

generating at least one reference signal for a transmission/reception stage within the transmitter/receiver device, the at least one reference signal having a first accuracy and being generated based upon at least one first circuit;

generating a clock signal based upon a second circuit;

generating a base signal for the at least one first circuit and the second circuit, the base signal having a second accuracy less than the first accuracy; and

delivering the base signal as a master-clock signal to a modulator/demodulator connected to the transmission/reception stage when the transmission/reception stage and the second circuit are inactive, and delivering the clock signal as the master-clock signal when the transmission/reception stage and the second circuit are active.

8. (Currently Amended) A process according to Claim 7, wherein the ~~wherein the~~ clock signal is generated having the first accuracy.

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9. (Previously Presented) A process according to Claim 7, wherein the at least one first circuit comprises at least one phase-locked loop.

10. (Previously Presented) A process according to Claim 9, wherein the at least one phase-locked loop comprises a fractional-division phase-locked loop.

11. (Previously Presented) A process according to Claim 7, wherein the second circuit comprises a phase-locked loop.

12. (Previously Presented) A process according to Claim 11, wherein the phase-locked loop comprises a fractional-division phase-locked loop.

13. (Previously Presented) A process according to Claim 7, wherein the at least one first circuit and the second circuit are defined within a frequency synthesizer stage connected to the modulator/demodulator and the transmission/reception stage.

14. (Previously Presented) A process according to Claim 7, wherein the at least one first circuit and the second circuit are controlled by an automatic frequency control algorithm.

15. (Previously Presented) A process according to Claim 7, wherein the transmitter/receiver device is within a cellular mobile telephone.

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16. (Previously Presented) A process for reducing electrical consumption within a transmitter/receiver device, the process comprising:

generating at least one first clock signal at a first accuracy at a first power level for a transmission/reception stage and a modulator/demodulator when the transmission/reception stage is active; and

generating a second clock signal at a second accuracy less than the first accuracy and at a second power level less than the first power level for the modulator/demodulator when the transmission/reception stage is inactive.

17. (Previously Presented) A process according to Claim 16, wherein generating the at least one first clock signal is generated by at least one phased-locked loop.

18. (Previously Presented) A process according to Claim 17, wherein the at least one phased-locked loop comprises a fractional-division phase-locked loop.

19. (Previously Presented) A process according to Claim 17, wherein the at least one phase-locked loop is inactive when the transmission/ reception stage is inactive.

20. (Previously Presented) A process according to Claim 16, wherein the second clock signal is generated by an oscillator.

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21. (Previously Presented) A process according to Claim 16, wherein the at least one first clock signal and the second clock signal are generated within a frequency synthesizer stage connected to the modulator/demodulator and the transmission/reception stage.

22. (Previously Presented) A process according to Claim 16, wherein the transmitter/receiver device is within a cellular mobile telephone.

23. (Previously Presented) A transmitter/receiver device comprising:

- a transmission/reception stage;
- a processing stage connected to said transmission/reception stage and comprising
 - modulation/demodulation means, and
 - automatic frequency control means;
- a frequency synthesizer stage controlled by said automatic frequency control means for generating at least one reference signal having a first accuracy for said transmission/reception stage, and for generating a master-clock signal to said modulation/demodulation means, said frequency synthesizer stage comprising
 - an oscillator for generating a base signal having a second accuracy less than the first accuracy,
 - at least one first fractional-division phase-locked loop connected to said transmission/reception stage for generating the at least one reference signal, and

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a second fractional-division phase-locked loop for generating a clock signal,

each phase-locked loop being able to adopt on command an active state and an inactive state, and having a control input connected to said automatic frequency control means, and an input for receiving the base signal;

controllable switching means having a first state for connecting said oscillator to said modulation/demodulation means with the base signal being provided as the master-clock signal, and a second state for connecting said second fractional-division phase-locked loop to said modulation/demodulation means with the clock signal being provided as the master-clock signal; and

control means for placing said second fractional-division phase-locked loop in an inactive state and said controllable switching means in the first state, and for placing said second fractional-division phase-locked loop in an active state and said controllable switching means in the second state.

24. (Previously Presented) A transmitter/receiver device according to Claim 23, wherein said at least one first fractional-division phase-locked loop and said second fractional-division phase-locked loop each comprises a delta-sigma modulation fractional-division phase-locked loop.

25. (Previously Presented) A transmitter/receiver device according to Claim 23, wherein the transmitter/receiver device is within a cellular mobile telephone.

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26. (Previously Presented) A transmitter/receiver device comprising:

a transmission/reception stage;

a modulator/demodulator connected to said transmission/reception stage; and

a clock circuit for generating at least one first clock signal at a first accuracy at a first power level for said transmission/reception stage and said modulator/demodulator when said transmission/reception stage is active, and generating a second clock signal at a second accuracy less than the first accuracy and at a second power level less than the first power level for said modulator/demodulator when said transmission/reception stage is inactive.

27. (Previously Presented) A transmitter/receiver device according to Claim 26, wherein said clock circuit comprises at least one phased-locked loop for generating the at least one first clock signal.

28. (Previously Presented) A transmitter/receiver device according to Claim 27, wherein said at least one phased-locked loop comprises a fractional-division phase-locked loop.

29. (Previously Presented) A transmitter/receiver device according to Claim 27, wherein said at least one phase-locked loop is inactive when said transmission/reception stage is inactive.

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30. (Previously Presented) A transmitter/receiver device according to Claim 26, wherein said clock circuit comprises an oscillator for generating the second clock signal.

31. (Previously Presented) A transmitter/receiver device according to Claim 26, wherein said clock circuit is within a frequency synthesizer stage connected to the modulator/demodulator and the transmission/reception stage.

32. (Previously Presented) A transmitter/receiver device according to Claim 26, wherein the transmitter/receiver device is within a cellular mobile telephone.